

SN 10/824,691
Docket No. S-102,389
In Response to Office Action dated September 20, 2005

REMARKS

Applicant first wishes to point out an error in some of the EXAMPLES of the present specification. The molar ratio of the graphite:hBN in EXAMPLES 2, 3, 4, and 5 is not 1:1 as it is in EXAMPLE 1. The molar ratio of graphite:hBN is 2:1, as Applicant disclosed on page 6, line 13 through page 7 line 1 of the specification as follows:

"...entries 1 and 2 (BCN) employed a composition of a 1:1 molar ratio of graphite:hBN (i.e. 1 part graphite and 1 part hBN). Entries 2-9 (BC₂N) employed a composition 2:1 molar ratio of graphite:hBN (i.e. 2 parts graphite and 1 part hBN). Entry 11 (BC₄N) employed a powder composition of a 4:1 molar ratio of graphite:hBN (i.e. 4 parts graphite and 1 part hBN....". The entries refer to entries in TABLE 1 on page 7. Applicant is amending the specification to reflect the correct molar ratio in the EXAMPLES section. No new matter has been added by this change.

Claims 6-10 and 12-22 are pending in the present patent application. Claims 6-10 and 12-22 are rejected.

Claims 6-10 and 12-22 are rejected under 35 U.S.C. 112, second paragraph, and under 35 U.S.C. 112, first paragraph.

Claims 6-10 and 12-22 are rejected under 35 U.S.C. 112, second paragraph because claim 6, lines 6-7 read, "ball-milled, the ball-milled mixture..." and it is unclear if the term "mixture" should appear after the first "ball-milled". Applicant has amended claim 6 by omitting the first "ball-milled". The claim now reads "...a ball-milled mixture comprising...". No new matter has been added by this change. With this change, Applicant respectfully requests that the rejection under 35 U.S.C. 112, second paragraph, be withdrawn.

According to the present Office Action, Applicant's arguments filed on 22 August 2005 were found persuasive and the previous rejections have been withdrawn because the prior art does not teach encapsulating a mixture under pressure and then heating the encapsulated mixture. However, claims 6-10 and 12-22 are rejected under 35 U.S.C. 112, first paragraph in the present Office Action because, according to the present Office Action, no support could be found for encapsulating at a pressure in the range of from 15 to 25 GPa.

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Applicant respectfully disagrees. Support for encapsulating at pressures of 15GPa, 20 GPa, and 25 GPa, can be found in EXAMPLES 2, 3, 4, and 5 of the specification. EXAMPLE 2, on page 7, at lines 19-25, for example, discloses the preparation of a light yellow colored BC₂N compact by placing ball-milled powder into a platinum capsule (i.e. encapsulating) and using an anvil press to subject the encapsulated powder to a pressure of about 15 GPa. The encapsulated powder is then sintered at a temperature of about 2100 K for about 5 minutes. EXAMPLE 3, on page 7, at lines 19-25, discloses the preparation of another BC₂N compact by placing ball milled powder into a platinum capsule (i.e. encapsulating), and using an anvil press to subject the encapsulated mixture to a pressure of about 20 GPa, and then sintering the encapsulated powder at a temperature of about 2200 K for about 5 minutes. Both EXAMPLE 4 (on page 7, at line 26 through page 8 line 3) and EXAMPLE 5 (on page 8 at line 4 through line 10) disclose the preparation of BC₂N compacts by encapsulating ball-milled mixtures of graphite and hexagonal boron nitride, subjecting the encapsulated mixtures to a pressure of about 25 GPa, and then sintering the encapsulated mixtures. Applicant submits that adequate support for encapsulation at a pressure in the range of from about 15 GPa to about 25 GPa has been provided. For these reasons, Applicant respectfully requests that the rejection of claims 6-10 and 12-22 under 35 U.S.C. 112, first paragraph be withdrawn.

Applicant respectfully requests that this amendment be entered into the present patent application. For the reasons set forth above, Applicant believes that all currently pending claims are in condition for allowance, and such action at an early date is earnestly solicited. No new matter has been added. Reexamination and reconsideration are respectfully requested.

Respectfully submitted,

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